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Derwent Title: Enhancement system for stereo sound reproduction system - which generates sum and difference signal selectively alters their relative amplitudes and combines them with stereo signals [\[Derwent Record\]](#)

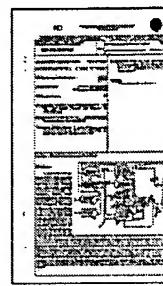
Country: **WO** World Intellectual Property Organization (WIPO)

Kind: **A1** Publ. of the Int. Appl. with Int. search report

Inventor: **KLAYMAN, Arnold, I.**

Assignee: **HUGHES AIRCRAFT COMPANY**

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Published / Filed: **1987-10-08 / 1987-01-27**

Application Number: **WO1987US0000099**

IPC Code: **IPC-7: H04S 1/00; H03G 5/02;**

Priority Number: **1986-03-27 US1986000844929  
1986-11-12 US1986000929452**

Abstract: A stereo enhancement system (300) which provides an enhanced wider stereo image and a wider listening area, and further provides perspective correction for achieving correct stereo sound perspective with speakers at different locations and with headphones. The stereo enhancement system includes a stereo image enhancement system (100, 10, 110) which includes circuitry (11, 13, 111, 113) for generating sum and difference signals based on left and right stereo signals, circuitry (17, 18, 19, 22, 30, 115, 125, 129, 40) for selectively altering the relative amplitudes of the difference signal components, circuitry (17, 21, 30, 117, 127, 40) for selectively altering the relative amplitudes of the sum signal components, and circuitry (23, 25, 27, 119, 121, 123) for combining the processed sum and difference signals with the original left and right stereo signals to produce enhanced left and right stereo signals. The enhancement system further includes a perspective correction system (200, 210) which is responsive to the enhanced left and right signals provided by the stereo image enhancement system or to left and right stereo signals of an audio system. The perspective correction system includes circuitry (211, 213) for generating sum and difference signals from the left and right stereo signals, equalization circuitry (215, 217, 221, 223) for providing fixed equalization for the sum and difference signals to compensate for the variation with direction of the frequency response of the human ear, and mixing circuitry (225) for combining the equalized sum and difference signals to produce left and right signals. [\[French\]](#)

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## CLAIMS

**+ STEREO ENHANCEMENT SYSTEM**

This application is a continuation-in-part of my application for STEREO ENHANCEMENT SYSTEM filed March 27, 1986, Serial No. 844,929.

**+ BACKGROUND OF THE INVENTION**

The disclosed invention generally relates to an enhancement system for stereo sound reproduction systems, and is particularly directed to a stereo enhancement system which broadens the stereo sound image, provides for an increased stereo listening area, and provides for perspective correction for the use of speakers or headphones.

**+ SUMMARY OF THE INVENTION**

It would therefore be an advantage to provide a stereo enhancement system which extends the width of the stereo sound image beyond the region between the speakers.

**+ Brief Description of the Drawings**

The advantages and features of the disclosed invention will readily be appreciated by persons skilled in the art from the following detailed description when read in conjunction with the drawing wherein: FIG. 1 is a block diagram of the stereo enhancement system of the invention. FIG. 2 is a block diagram of a dynamic stereo image enhancement system in accordance with the invention which provides for dynamic equalization.

**+ DETAILED DESCRIPTION OF THE DISCLOSURE**

In the following detailed description and in the several figures of the drawing, like elements are identified with like reference numerals.

Forward References:

[Go to Result Set: Forward references \(6\)](#)

PDF	Patent	Pub.Date	Inventor	Assignee	Title
	<a href="#">US6718039</a>	2004-04-06	Klayman; Arnold I.	SRS Labs, Inc.	Acoustic correction apparatus
	<a href="#">US6590983</a>	2003-07-08	Kraemer; Alan D.	SRS Labs, Inc.	Apparatus and method for synti pseudo-stereophonic outputs fr monophonic input
	<a href="#">US6281749</a>	2001-08-28	Klayman; Arnold I.	SRS Labs, Inc.	Sound enhancement system
	<a href="#">US5970152</a>	1999-10-19	Klayman; Arnold I.	SRS Labs, Inc.	Audio enhancement system for surround sound environment
	<a href="#">US5912976</a>	1999-06-15	Klayman; Arnold I.	SRS Labs, Inc.	Multi-channel audio enhancement for use in recording and playback methods for providing same
	<a href="#">US5850453</a>	1998-12-15	Klayman; Arnold I.	SRS Labs, Inc.	Acoustic correction apparatus

Other Abstract Info:

None